

REMARKS

Claim 14 calls for lining a trench with a catalyst material “to remove gases from a circulating fluid.”

While the cited reference to Arik does teach lining a trench with a catalyst material, that catalyst material is not to remove gases from the circulating fluid. Instead, the catalyst is explicitly for purposes of growing the carbon nanotubes. This is explained in the Arik reference at column 3, lines 21-35.

For this reason, reconsideration is requested.

The claim also requires that the channels be formed that align with the trench to allow fluid circulation completely across the substrate from one side of the substrate to the other and through the trench.

The office action notes that the trenches may be formed on either one wafer or both wafers.

But even if this is so, no trench extends completely across the wafer. It is noted, for example, in Figure 5, that the material 106 is an oxide, not a trench. Plainly, what is depicted in Figure 5 does not extend across either wafer from side to side. This is confirmed in Figure 7 and even more clearly in Figure 8. Plainly, the trenches do not extend completely across the wafers.

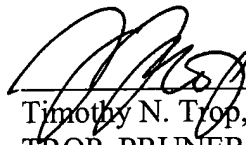
For this additional reason, reconsideration is respectfully requested.

Finally, claim 14 calls for protecting the catalyst when forming said channels. There are no channels that align with the trench and, therefore, there is no protecting the catalyst when forming the channels. The material cited in column 8, lines 45-59 further confirms that the catalyst’s coating is “effective for nucleating growth of nanotubes,” not for removing oxygen. Moreover, it is clear that there is no protection of the catalyst when forming any channel because no channels are formed. The resist that is described is simply used to pattern the grooves. The catalyst is applied before that resist that was previously used to etch the grooves is stripped off so that “the resist provides masking for the catalyst deposition as well.” Namely, the resist can only be used to protect the underlying materials from being coated with catalyst. That would mean that regions outside the grooves are not placed in contact with the catalyst. This does not meet the limitation of protecting the catalyst, but, rather, meets the requirement of the reference of protecting the material surrounding the groove from the catalyst.

For this additional reason, reconsideration is requested.

Respectfully submitted,

Date: October 24, 2006

A handwritten signature in black ink, appearing to read 'Timothy N. Trop', is written over a horizontal line.

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